

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING PERMIT

Permit No. AQ0909TVP01
Application No. AQ0909TVP01

Issue Date: November 30, 2007
Expiration Date: November 29, 2012

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **ConocoPhillips Alaska, Inc.**, for the operation of the **Transportable Drilling Rigs**.

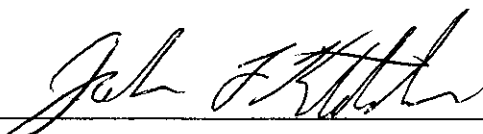
This permit authorizes emissions only from drilling operations that qualify as temporary operations under AS 46.14.215. This permit authorizes emissions only from drilling operations conducted at well pads (including seasonal ice pads) within Part 71 sources inside the Kuparuk River Unit as specified in Section 1 of the permit. This permit does not authorize drilling operations at sales oil production pads within existing Part 71 sources, except as authorized by condition 11.

This permit authorizes emissions only from the drilling rigs identified in Section 11 of the permit, except as authorized by condition 12.1. If a separate air quality permit includes specific requirements for operation of a drill rig or rigs at a well pad or pads within the lease areas specified in Section 1 of this permit, then this permit does not apply to that well pad or pads.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

This operating permit becomes effective on **December 30, 2007**.



John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BHp	Boiler Horsepower
C.F.R.	Code of Federal Regulations
The Act	Clean Air Act
CO	Carbon Monoxide
dscf	Dry standard cubic foot
EPA	US Environmental Protection Agency
EU	Emission Unit
gr./dscf	grain per dry standard cubic foot (1 pound = 7000 grains)
GPH	gallons per hour
HAPs	Hazardous Air Pollutants [<i>HAPs</i> as defined in AS 46.14.990(14)]
ID	Emission Unit Identification Number
kPa	kiloPascals
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology as defined in 40 C.F.R. 63.
MR&R	Monitoring, Recordkeeping, and Reporting
NESHAPs	Federal National Emission Standards for Hazardous Air Pollutants [<i>NESHAPs</i> as contained in 40 C.F.R. 61 and 63]
NO _x	Nitrogen Oxides
NSPS	Federal New Source Performance Standards [<i>NSPS</i> as contained in 40 C.F.R. 60]
O & M	Operation and Maintenance
O ₂	Oxygen
PAL	Plantwide Applicability Limitation
PM-10	Particulate Matter less than or equal to a nominal ten microns in diameter
ppm	Parts per million
ppmv, ppmvd	Parts per million by volume on a dry basis
psia	Pounds per Square Inch (absolute)
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
SIC	Standard Industrial Classification
SO ₂	Sulfur dioxide
TPH	Tons per hour
TPY	Tons per year
VOC	volatile organic compound [<i>VOC</i> as defined in 40 C.F.R. 51.100(s)]
VOL	volatile organic liquid [<i>VOL</i> as defined in 40 C.F.R. 60.111b, Subpart Kb]
vol%	volume percent
wt%	weight percent

Section 1. Stationary Source Information

Names and Addresses:

Permittee: **ConocoPhillips Alaska, Inc.**
700 G Street (zip 99501)
P.O. Box 100360
Anchorage, AK 99510-0360

Stationary Source: **Transportable Drilling Rigs**

Location: At locations within existing Part 71 sources inside the Kuparuk River Unit

Physical Address: Kuparuk Oil Field

Owner: Doyon Drilling Nabors Alaska Drilling, Inc.
101 W. Benson Blvd., Suite 503 2525 C Street, Suite 200
Anchorage, AK 99503 Anchorage, AK 99503

Nordic-Calista Services, Inc.
4700 Business Park Boulevard, Suite 19
Anchorage, AK 99503

Kuupik Drilling
825 W. 8th Avenue, Suite 205
Anchorage, AK 99501

Operator: Same as Permittee

Permittees Responsible
Official: Terry Lucht, Manager, Drilling and Well Operations

Designated Agent: United States Corporation Company
801 West 10th Street, Suite 300
Juneau, AK 99801

Stationary Source and
Building Contact: Randy Thomas (Drilling Supervisor)
(907) 265-6830
Von Cawvey (Wells Supervisor)
(907) 265-6306

Fee Contact: Tom Manson, Sr. Environmental Coordinator
(907) 263-4627 Tom.W.Manson@conocophillips.com

Stationary Source Process Description

SIC Codes: 1311--Crude Petroleum and Natural Gas Production
NAICS: 211111

[18 AAC 50.040(j)(3), 12/3/05; 18 AAC 50.326(a), 10/1/04] & [40 C.F.R. 71.5(c)(1 & 2), 7/1/04]

Section 2. Emission Unit Inventory and Description

The generic emission unit groups listed in Table A have specific monitoring, recordkeeping, or reporting conditions in this permit¹.

The generic emission unit groups listed in Table A are authorized for use by the Permittee in conjunction with up to twelve transportable drilling rigs operating concurrently at well pads within existing Part 71 sources inside the Kuparuk River Unit.

The individual transportable drilling rigs and their associated emission units operating under this permit are identified in Table C (Section 11) of this permit. The specific number of emission units and the actual make/model of the units comprising the individual transportable drilling rigs utilized may vary. However, use of incinerators or flares is not authorized in conjunction with drilling activities at any well pad governed by this permit. Emission unit descriptions and ratings in Section 11 are given only for identification purposes.

Table A – Emission Units Inventory

Operating Group	Emission Unit Group
Drill Rig Equipment	Non-road Engines
	Heaters and Boilers
Flowback Tanks ¹	Tanks
Support Equipment	Non-road Engines
	Heaters and Boilers

¹ Portable flowback tanks do not have specific monitoring, recordkeeping or reporting requirements in this permit. However, emissions from these tanks are included in the assessable potential to emit total stated in condition 23 and must be accounted for when estimating assessable emissions under condition 24.1.

Section 3. State Requirements

Visible Emissions Standards

Industrial Process and Fuel-Burning Equipment (excluding non-road engines)

1. **Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from any emission unit within Emission Unit Group category "Heaters and Boilers" listed in Table A to reduce visibility through the exhaust effluent by any of the following:

- 1.1. more than 20 percent for a total of more than three minutes in any one hour²;

[18 AAC 50.040(e) & (j), 12/3/05; 18 AAC 50.326(j), 10/1/04; and 18 AAC 50.055(a)(1), 1/18/97]
[40 C.F.R. 52.70 and 71.6(a)(1), 7/1/04]

- 1.2. more than 20 percent averaged over any six consecutive minutes³.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/1/04; and 18 AAC 50.055(a)(1), 5/3/02]
[40 C.F.R. 71.6(a)(1), 7/1/04]

- 1.3. For each significant emission unit with a rated capacity equal to or greater than 1.7 MMBtu/hr within Emission Unit Group category "Heaters and Boilers" operated for each transportable drilling rig, monitor, record, and report visible emissions in accordance with conditions 2, 3 and 4.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/04]

Visible Emissions Monitoring, Recordkeeping and Reporting

Liquid-fired Emission Units – Heaters and Boilers

2. **Visible Emissions Monitoring.** For each rig operated, the Permittee shall observe the exhaust of the "Heaters and Boilers" for visible emissions using the Method 9 Plan under condition 2.1.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i), 7/1/04]

- 2.1. **Method 9 Plan.** For all 18-minute observations in this plan, observe the exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

- a. Annual Method 9 Observations. Perform 18-minute observations at least once in a calendar year for each emission unit operating at least seven consecutive days at a site governed by this permit.
- b. Alternate Method 9 Observation. If the 18-minute observations required by condition 2.1.a are not accomplished while this emission unit is located at a site governed by this permit, the observations may be conducted at another site within the timeframe specified under condition 2.1.a.

² For purposes of this permit, the "more than three minutes in any one hour" criterion in this condition and condition 16.1 will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective May 3, 2002 is adopted by the U.S. EPA.

³ The six-minute average standard is enforceable only by the state until 18 AAC 50.055(a)(1), dated May 3, 2002, is approved by EPA into the SIP at which time this standard becomes federally enforceable.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/04]

3. Visible Emissions Recordkeeping. The Permittee shall keep records as follows:

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii), 7/1/04]

3.1. When conducting the Method 9 observations of condition 2.1,

a. the observer shall record:

- (i) the name of the stationary source, emission unit and location, emission unit type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in Section 13;
- (ii) the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;
- (iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;
- (iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation in Section 13; and
- (v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

b. to determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet; and

c. calculate and record the highest 18-consecutive minute average observed.

4. Visible Emissions Reporting. The Permittee shall report visible emissions as follows:

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii), 7/1/04]

4.1. include in each operating report under condition 47

- a. copies of the observation results (i.e. opacity observations), except for the observations the Permittee has already supplied to the department;
- b. a summary to include:
 - (i) number of days observations were made;
 - (ii) highest six-minute average observed; and

- (iii) dates when one or more observed six-minute averages were greater than 20 percent; and
 - c. a summary of any monitoring or recordkeeping required under conditions 2 and 3 that was not done.
- 4.2. report under condition 46:
- a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and
 - b. if any monitoring under condition 2 was not performed when required.

Particulate Matter Emissions Standards

Industrial Processes and Fuel-Burning Equipment (excluding non-road engines)

- 5. Particulate Matter.** The Permittee shall not cause or allow particulate matter (PM) emitted from any emission unit within Emission Unit Group category "Heaters and Boilers" listed in Table A, for each transportable drilling rig, to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/1/04; and 18 AAC 50.055(b)(1), 1/18/97]
[40 C.F.R. 71.6(a)(1), 7/1/04]

- 5.1. For each significant emission unit with a rated capacity equal to or greater than 1.7 MMBtu/hr within Emission Unit Group category "Heaters and Boilers" operated for each transportable drilling rig, monitor, record and report in accordance with conditions 6, 7, and 8.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/04]

For fuel-oil⁴ fired Boilers and Heaters

- 6. Particulate Matter Monitoring.** The Permittee shall conduct source tests on fuel-oil fired "Heaters and Boilers", to determine the concentration of PM in the exhaust of an emission unit as follows:

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i) & (c)(6), 7/1/04]

- 6.1. Except as provided in condition 6.4, within six months of exceeding the criteria of condition 6.2, either
- a. conduct a PM source test according to the requirements set out in Section 7, or
 - b. make repairs so that emissions no longer exceed the criteria of condition 6.2. To show that emissions are below those criteria, observe emissions as described in condition 2.1 under load conditions comparable to those when the criteria were exceeded.

⁴ See footnote 5.

- 6.2. Conduct the source test according to condition 6.1 if 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent.
- 6.3. During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 6.4. The PM source test requirement in condition 6 is waived for an emission unit if:
 - a. a PM source test during the most recent semiannual reporting period on that unit shows compliance with the PM standard since permit issuance, or
 - b. if a follow-up visible emission observation conducted using Method 9 during the following six months shows that the excess visible emissions no longer occur.
7. **Particulate Matter Recordkeeping.** The Permittee shall keep records of the results of any PM testing and visible emissions observations conducted under condition 6.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii) & (c)(6), 7/1/04]
8. **Particulate Matter Reporting.** The Permittee shall report for fuel-oil fired "Heaters and Boilers" as follows:

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii) & (c)(6), 7/1/04]

 - 8.1. report under condition 46:
 - a. the results of any PM source test that exceed the PM emissions limit; or
 - b. if the threshold of condition 6.2 was exceeded and the Permittee did not comply with either condition 6.1.a or 6.1.b.
 - 8.2. In each operating report required by condition 47, include:
 - a. the dates, EU ID(s) and heater/boiler ratings from Section 11, and results when an 18-minute opacity observation was greater than the 20 percent applicable threshold in condition 6.2;
 - b. a summary of the results of any PM source testing and visible emissions observations conducted under condition 6 that exceeds the emission limit stated in condition 5; and
 - c. copies of any visible emissions observation results (opacity observations) greater than the threshold of condition 6.2, if they were not already submitted.

Sulfur Compound Emission Standards Requirements

9. **Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from any emission unit within Emission Unit Group category "Heaters and Boilers" listed in Table A to exceed 500 ppm averaged over three hours.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/1/04; and 18 AAC 50.055(c), 1/18/97]
[40 C.F.R. 71.6(a)(1), 7/1/04]

For North Slope Diesel fuel in "Heaters and Boilers" in Table A

- 9.1. For liquid fuel from a North Slope topping plant, the Permittee shall obtain from the topping plant the results of a monthly fuel sulfur analysis.
- 9.2. If the fuel contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO₂ emissions in ppm using either Section 14 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).
- 9.3. The Permittee shall report as follows:
 - a. Include in the report required by condition 47 a list of the sulfur content measured for each month covered by the report. For fuel with a sulfur content greater than 0.75 percent by weight, include in the operating report the SO₂ emissions calculated under condition 9.2 in PPM.
 - b. If SO₂ emissions calculated under condition 9.2 exceed 500 ppm, the Permittee shall report under condition 46. When reporting under this condition, include the calculation under Section 14.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]

[40 C.F.R. 71.6(a)(3), 7/1/04]

For fuel oil⁵ fired "Heaters and Boilers" in Table A

- 9.4. For liquid fuel not obtained from a North Slope topping unit, the Permittee shall do one of the following for each shipment of fuel:
 - a. If the fuel grade requires a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount; or
 - b. If the fuel grade does not require a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount and
 - (i) test the fuel for sulfur content; or
 - (ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.
- 9.5. Fuel testing under condition 9.4 must follow an appropriate method listed in 18 AAC 50.035 or another method approved in writing by the department.
- 9.6. If the fuel tested under condition 9.4 contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO₂ emissions in ppm using either Section 14 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).
- 9.7. The Permittee shall report as follows:

⁵ Oil means crude oil or petroleum or a liquid derived from crude oil or petroleum, including distillate and residual oil, as defined in 40 C.F.R. 60.42b, effective 7/1/03.

- a. If SO₂ emissions calculated under condition 9.6 exceed 500 ppm, the Permittee shall report under condition 46. When reporting under this condition, include the calculation under Section 14.
- b. The Permittee shall include in the report required by condition 47
 - (i) a list of the fuel grades received at the stationary source during the reporting period;
 - (ii) for any grade with a maximum fuel sulfur content greater than 0.5 percent, the fuel sulfur of each shipment; and
 - (iii) for fuel with a sulfur content greater than 0.75 percent, the calculated SO₂ emissions in ppm.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/04]

Section 4. Stationary Source-Wide Specific Requirements

Fuel Usage Limits

10. The Permittee shall limit the total daily and aggregate rolling 12-month fuel usage based on the sulfur content of the liquid fuel burned as specified in Table B. These daily and annual fuel use limits apply separately to each well pad where drilling occurs, and are cumulative for all drill rig and support equipment emission units listed in Table A, and by reference Section 11, that operates at a well pad during the time periods indicated by each limitation. These limits are also cumulative with respect to the operation of multiple rigs on a given well pad, such that the limits represent the total fuel use available for all emission units during the daily and annual time periods.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/01/04]
[40 C.F.R. 71.6(a)(13)(i) and (e), 7/1/04]

- 10.1. The Permittee shall monitor and record the aggregated daily total and rolling 12-month total fuel usage by all drill rig and support equipment emission units described under Table A for each well pad where drill rig operations occur under this permit.
- 10.2. Report the data recorded under condition 10.1 for all well pad locations where operations occur under this permit during the reporting period using the operating report under condition 47.
- 10.3. Notify the department per condition 46 if the aggregate daily fuel usage or the aggregate rolling 12-month total fuel usage at any well pad location where operations occur under this permit exceeds a limit in Table B.

Table B -- Liquid Fuel Use Limits

Liquid Fuel Sulfur Content (up to)	Total Daily Fuel Use Limit	Total Rolling 12-Month Fuel Use Limit
0.15% by weight	19,500 gal	1,450,000 gal
0.20% by weight	14,600 gal	
0.25% by weight	11,700 gal	

Drilling Locations and Site Restrictions

11. The Permittee shall operate the permitted drill rigs and support equipment within the Kuparuk River Unit Drilling Area specified in Section 1. Operation at sales oil production pads within a Part 71 source and the Kuparuk Seawater Treatment Plant, shall not occur without first obtaining written authorization from the department following submittal of a demonstration that Ambient Air Quality Standards are protected. The exception is KRU Well Pad 1B, which is attached to sales oil production pad CPF1. Ambient air quality demonstrations have been made and permitted drill rigs and support equipment are allowed to operate at Well Pad 1B.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.201, 12/3/05; 18 AAC 50.326(j), 10/01/04]
[40 C.F.R. 71.6(a)(13)(i) and (e), 7/1/04]

12. The Permittee may concurrently operate up to twelve drilling rigs, drawn from the pool of rigs identified in Section 11 of this permit, at well pads where drilling activities are authorized by this permit.

[18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/01/04]
[40 C.F.R. 71.6(a)(13)(i) and (e), 7/1/04]

- 12.1. The Permittee may use alternative drilling rigs to those listed in Section 11 of this permit if drilling operations do not exceed fuel use and fuel sulfur limits, and allowable emissions in Section 3 and Section 4 of this permit. The Permittee shall provide written notification to the department at least 7 days prior to commencing drilling that includes a brief description of the alternate drill rig including the emission unit inventory and the date on which the alternate drill rig will be in operation.
13. The Permittee shall use this permit at well pads only for temporary construction activity⁶. Extension beyond the 24-month time frame will require department approval.
- [18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/01/04]
[40 C.F.R. 71.6(a)(13)(i) and (e), 7/1/04]
- 13.1. The Permittee shall notify the department via email or facsimile when relocating a drilling rig to or from a well pad where drilling operations are authorized under this permit.
- 13.2. In each operating report under condition 47, provide a summary of drilling operations that were covered by this permit during the reporting period. Such summaries must indicate, for each drill rig and support equipment operating under this permit, the location (well pad) and duration (in total consecutive months) of each drilling activity that occurred or is occurring during the reporting period.
- 13.3. Notify the department per condition 46 if any drilling operations conducted under authorization of this permit are performed at an individual well pad for more than 24 consecutive months.

Liquid Fuel Sulfur Content

14. **Owner Requested Limit.** The Permittee shall not burn any liquid fuel with a sulfur content greater than 0.25% by weight.
- [18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/01/04]
[40 C.F.R. 71.6(a)(13)(i) and (e), 7/1/04]
- 14.1. Monitor, record, and report according to condition 9.
- 14.2. Notify the department per condition 46 if the fuel sulfur content limit in condition 14 is exceeded.

⁶ From 18 AAC 50.990(107) "temporary construction activity" means construction that is completed in 24 months or less from the date construction begins and includes any period of inactivity during that 24-month period.

Section 5. Insignificant Emission Units

- 15.** For each emission unit within the Emission Unit Group category "Heaters and Boilers" listed in Table A and for emission units at the rig that are insignificant as defined in 18 AAC 50.326(d)-(i) that are not listed in this permit, the following apply:
- 15.1. Based on reasonable inquiry, the Permittee shall certify compliance with the requirements specified in conditions 16, 17, and 18 as set out in condition 56;
- 15.2. The Permittee shall comply with the requirements of condition 29.
- 15.3. No other monitoring, recordkeeping or reporting is required.
[18 AAC 50.346(b)(4), 10/1/04]
- 16.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process or fuel-burning equipment to reduce visibility through the exhaust effluent by any of the following:
- 16.1. more than 20 percent for a total of more than three minutes in any one hour⁷; or
[18 AAC 50.055(a)(1), 1/18/97]
[40 C.F.R. 52.70, 7/1/04]
- 16.2. more than 20 percent averaged over any six consecutive minutes⁸.
[18 AAC 50.050(a) & 50.055(a)(1), 5/03/02]
- 17.** The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.
[18 AAC 50.055(b)(1), 1/18/97]
- 18.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.
[18 AAC 50.055(c), 1/18/97]

⁷ See Footnote 2.

⁸ See Footnote 3.

Section 6. General Conditions

Standard Terms and Conditions

19. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.
[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (e), 5/03/02]
20. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (f), 5/03/02]
21. The permit does not convey any property rights of any sort, nor any exclusive privilege.
[18 AAC 50.326(j)(3), 10/1/04 & 18 AAC 50.345(a) & (g), 5/03/02]
22. **Administration Fees.** The Permittee shall pay to the department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400-405.
[18 AAC 50.326(j), 18 AAC 50.400-405, 1/29/05; AS 37.10.052(b), 7/1/2001; AS 46.14.240, 6/7/03]
23. **Assessable Emissions.** The Permittee shall pay to the department an annual emission fee based on the stationary source's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410(b). The department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of
- 23.1. the stationary source's assessable potential to emit of 4,588 TPY; or
- 23.2. the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the department, when demonstrated by:
- a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
 - d. other methods and calculations approved by the department.
- [18 AAC 50.040(j)(3), 12/3/05; 18 AAC 50.326(j)(1), 12/01/04; 18 AAC 50.346(b)(1), 10/1/04; and 18 AAC 50.410 – 50.420, 01/29/05]
[40 C.F.R. 71.5(c)(3)(ii), 7/1/04]
24. **Assessable Emission Estimates.** Emission fees will be assessed as follows:
- 24.1. no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the submittal must include all of

the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates; or

24.2. if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in condition 23.1.

[18 AAC 50.040(j)(3), 12/3/05; 18 AAC 50.326(j)(1), & 50.346(b)(1), 10/1/04; and 18 AAC 50.410 – 50.420, 01/30/05]
[40 C.F.R. 71.5(c)(3)(ii), 7/1/04]

25. Good Air Pollution Control Practice. The Permittee or rig operator shall do the following for each significant emission unit in Table A:

- a. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
- b. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and
- c. keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.030, 50.326(j)(3), & 50.346(b)(5), 10/1/04]

26. Dilution. The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

27. Reasonable Precautions to Prevent Fugitive Dust. A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air. Monitoring shall consist of an annual certification that reasonable precautions were taken as necessary.

[18 AAC 50.045(d), 1/18/97; 18 AAC 50.040(e), 12/3/05; 18 AAC 50.326(j)(3) & 50.346(c), 10/1/04]

28. Stack Injection. The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a stationary source constructed or modified after November 1, 1982, except as authorized by a construction permit, Title V permit, or air quality control permit issued before October 1, 2004.

[18 AAC 50.055(g), 10/1/04]

29. Air Pollution Prohibited. No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 5/26/72; 18 AAC 50.040(e), 12/3/05; 18 AAC 50.326(j)(3) & 50.346(a), 10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/04]

29.1. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to condition 46.

29.2. As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of condition 29.

- 29.3. The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if :
- after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of condition 29; or
 - the department notifies the Permittee that it has found a violation of condition 29.
- 29.4. The Permittee shall keep records of :
- the date, time, and nature of all emissions complaints received;
 - the name of the person or persons that complained, if known;
 - a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of condition 29; and
 - any corrective actions taken or planned for complaints attributable to emissions from the stationary source.
- 29.5. With each operating report under condition 47, the Permittee shall include a brief summary report which must include:
- the number of complaints received;
 - the number of times the Permittee or the department found corrective action necessary;
 - the number of times action was taken on a complaint within 24 hours; and
 - the status of corrective actions the Permittee or department found necessary that were not taken within 24 hours.
- 29.6. The Permittee shall notify the department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.
30. **Technology-Based Emission Standard.** If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235(d), causes emissions in excess of a technology-based emission standard⁹, the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard and shall give written notice to the department within two working days after the event commenced or was discovered. Notice to the department must include the information stated in 18 AAC 50.235(a)(2).

[18 AAC 50.235(a), 1/18/97; 18 AAC 50.040(j)(4), 12/3/05; 18 AAC 50.3326(j)(4), 10/1/04]
[40 C.F.R. 71.6(c)(6), 7/1/04]

Open Burning Requirements

⁹ *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

- 31. Open Burning.** The Permittee shall conduct any open burning at the stationary source in accordance with the requirements of 18 AAC 50.065. Monitoring shall consist of an annual certification that any open burning complied with 18 AAC 50.065.

[18 AAC 50.065, 1/18/97 and 18 AAC 50.040(j), 12/3/05; 18 AAC 50.326(j), 10/1/04]

[40 C.F.R. 71.6(a)(3), 7/1/04]

Section 7. General Source Testing and Monitoring Requirements

- 32. Requested Source Tests.** In addition to any source testing explicitly required by the permit, the Permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.
[18 AAC 50.220(a), 1/18/97 & 18 AAC 50.345(a) & (k), 5/03/02]
- 33. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing
[18 AAC 50.220(b), 1/18/97]
- 33.1. at a point or points that characterize the actual discharge into the ambient air; and
- 33.2. at the maximum rated burning or operating capacity of the emission unit or another rate determined by the department to characterize the actual discharge into the ambient air.
- 34. Reference Test Methods.** The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:
- 34.1. Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9 and may use the form in Section 13 to record data.
[18 AAC 50.030, 5/03/02, 18 AAC 50.220(c)(1)(D), 1/18/97]
- 34.2. Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.
[18 AAC 50.040(a)(3), 12/4/05; 18 AAC 50.220(c)(1)(E), 1/18/97]
[40 C.F.R. 60, Appendix A, 7/8/04]
- 34.3. Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.
[18 AAC 50.035(b)(2), 10/1/04; and 50.220(c)(1)(F), 1/18/97]
[40 C.F.R. 51, Appendix M, 7/1/04]
- 34.4. Source testing for emissions of any pollutant may be determined using an alternative method approved by the department in accordance with 40 C.F.R. 63 Appendix A, Method 301.
[18 AAC 50.040(c)(24), 12/3/05; 18 AAC 50.220(c)(2), 1/18/97]
[40 C.F.R. 63, Appendix A, Method 301, 11/12/04]
- 35. Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of the fuel, plus the excess air volume normal for the specific emission unit type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).
[18 AAC 50.220(c)(3), 1/18/97 & 50.990(102), 10/1/04]
- 36. Test Exemption.** The Permittee is not required to comply with conditions 38, 39 and 40 when the exhaust is observed for visible emissions using the Method 9 Plan (condition 2.1).
[18 AAC 50.345(a), 5/03/02]

37. **Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the department's appropriate division director or designee.

[18 AAC 50.345(a) & (l), 5/03/02]

38. **Test Plans.** Except as provided in condition 36, before conducting any source tests, the Permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance and must specify how the emission unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under condition 32 and at least 30 days before the scheduled date of any test unless the department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

[18 AAC 50.345(a) & (m), 5/03/02]

39. **Test Notification.** Except as provided in condition 36, at least 10 days before conducting a source test, the Permittee shall give the department written notice of the date and the time the source test will begin.

[18 AAC 50.345(a) & (n), 5/03/02]

40. **Test Reports.** Except as provided in condition 36, within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in condition 43. If requested in writing by the department, the Permittee must provide preliminary results in a shorter period of time specified by the department.

[18 AAC 50.345(a) & (o), 5/03/02]

41. **Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in conditions 2 and 17, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f), 1/18/97]

Section 8. General Recordkeeping and Reporting Requirements

Recordkeeping Requirements

- 42. Recordkeeping Requirements.** The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 60.7(f), Subpart A, 7/8/04 and 71.6(a)(3)(ii)(B), 7/1/04]

- 42.1. copies of all reports and certifications submitted pursuant to this section of the permit; and
- 42.2. records of all monitoring required by this permit, and information about the monitoring including:
 - a. the date, place, and time of sampling or measurements;
 - b. the date(s) analyses were performed;
 - c. the company or entity that performed the analyses;
 - d. the analytical techniques or methods used;
 - e. the results of such analyses; and,
 - f. the operating conditions that existed at the time of sampling or measurement.

Reporting Requirements

- 43. Certification.** The Permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

- 43.1. The department may accept an electronic signature on an electronic application or other electronic record required by the department if
 - a. a certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and
 - b. the person providing the electronic signature has made an agreement, with the certifying authority described in condition 43.1.a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.

[18 AAC 50.345(a) & (j), 5/3/02; 18 AAC 50.205 & 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii)(A), 7/1/04]

- 44. Submittals.** Unless otherwise directed by the department or this permit, the Permittee shall send one original and one copy of reports, compliance certifications, and other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance

Technician regarding software compatibility, provide electronic copies of data reports, source test reports, or other records under a cover letter certified in accordance with condition 43.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii)(A), 7/1/04]

- 45. Information Requests.** The Permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the department copies of records required to be kept by the permit. The department may require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.345(a) & (i), 5/3/02; 18 AAC 50.200, and 50.326(a) & (j), 10/1/04]
[40 C.F.R. 71.5(a)(2) & 71.6(a)(3), 7/1/04]

46. Excess Emissions and Permit Deviation Reports.

[18 AAC 50.235(a)(2), 50.240(c), 50.326(j)(3), and 50.346(b)(2) & (3), 10/1/04]

46.1. Except as provided in condition 29, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report:
 - (i) emissions that present a potential threat to human health or safety; and
 - (ii) excess emissions that the Permittee believes to be unavoidable;
- b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology based emission standard;
- c. report all other excess emissions and permit deviations
 - (i) within 30 days of the end of the month in which the emissions or deviation occurs or is discovered, except as provided in conditions 46.1.c(ii) and 46.1.c(iii);
 - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under condition 46.1.c(i); and
 - (iii) for failure to monitor, as required in other applicable conditions of this permit.

46.2. The Permittee must report using either the department's on-line form, which can be found at <http://www.state.ak.us/dec/air/ap/docs/adby/4notform.pdf>, or if the Permittee prefers, the form contained in Section 15 of this permit. The Permittee must provide all information called for by the form that is used.

46.3. If requested by the department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

- 47. Operating Reports.** During the life of this permit, the Permittee shall submit to the department one original and one copy of an operating report by April 30 for the period January 1 to March 31,

by July 30 for the period April 1 to June 30, by October 30 for the period July 1 to September 30, and by February 15 for the period October 1 to December 31 of the previous year.

[18 AAC 50.346(b)(6) & 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii)(A), 7/1/04]

47.1. The operating report must include all information required to be in operating reports by other conditions of this permit.

47.2. If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 47.1, either

a. The Permittee shall identify:

- (i) the date of the deviation;
- (ii) the equipment involved;
- (iii) the permit condition affected;
- (iv) a description of the excess emissions or permit deviation; and
- (v) any corrective action or preventive measures taken and the date of such actions;
or

b. When excess emissions or permit deviations have already been reported under condition 46, the Permittee may cite the date or dates of those reports.

Section 9. Permit Changes and Renewal

- 48. Emissions Trading:** No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit.

[18 AAC 50.040(j)(4), 12/3/05; 18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(8), 7/1/04]

- 49. Off Permit Changes.** The Permittee may make changes that are not addressed or prohibited by this permit, AQ0909TVP01, other than those subject to the requirements of 40 CFR part 72 through 78 or those that are modifications under any provision of title I of the Act to be made without a permit revision, provided that the following requirements are met:

[18 AAC 50.040(j)(4), 12/3/05; 18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(12), 7/1/04]

- 49.1. each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;
 - 49.2. provide contemporaneous written notice to EPA and to the department of each such change, except for changes that qualify as insignificant under 18 AAC 50.326(d) – (i). Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change;
 - 49.3. the change shall not qualify for the shield under 40 CFR 71.6(f); and
 - 49.4. the Permittee shall keep a record describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- 50. Operational Flexibility.** The Permittee may make changes to operations authorized by this permit without requesting a permit revision if the changes are not modifications under any provision of title I of the Act and the changes do not exceed the emissions allowable under this permit, AQ0909TVP01 (whether expressed herein as a rate of emissions or in terms of total emissions).
- 50.1. The Permittee shall provide to EPA and to the department written notification no less than 7 days in advance of the proposed change.
 - 50.2. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.
 - 50.3. The permit shield described in 40 C.F.R. 71.6(f) shall not apply to any change made pursuant to condition 50.

[18 AAC 50.040(j)(4), 12/3/05; 18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(13)(iii), 7/1/04]

- 51. Permit Renewal.** To renew this permit, the Permittee shall submit an application under 18 AAC 50.326 no sooner than **May 29, 2011** and no later than **May 29, 2012**. If a timely and complete application for renewal of an operating permit is submitted to the department, the existing permit does not expire until the renewal permit has been issued or denied.

[18 AAC 50.040(j)(3), 12/3/05; 18 AAC 50.326(c)(2) & (j)(2), 10/1/04]
[40 CFR 71.5(a)(1)(iii) and 71.7(c)(1), 7/1/04]

Section 10. Compliance Requirements

General Compliance Requirements

- 52.** Compliance with permit terms and conditions is considered to be compliance with those requirements that are
- 52.1. included and specifically identified in the permit; or
 - 52.2. determined in writing in the permit to be inapplicable.
- [18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (b), 5/03/02]
- 53.** The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14.120(c), 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for
- 53.1. an enforcement action;
 - 53.2. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or
 - 53.3. denial of an operating-permit renewal application.
- [18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (c), 5/03/02]
- 54.** It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.
- [18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (d), 5/03/02]
- 55.** The Permittee shall allow the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to
- 55.1. enter upon the premises where a emission unit subject to the permit is located or where records required by the permit are kept;
 - 55.2. have access to and copy any records required by the permit;
 - 55.3. inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
 - 55.4. sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.
- [18 AAC 50.326(j)(3) and 50.345(a) & (h), 10/1/04]
- 56. Annual Compliance Certification.** For periods after the effective date of this permit each year by March 31, the Permittee shall compile and submit to the department one original and one copy of an annual compliance certification report.
- 56.1. Certify the compliance status of the stationary source over the preceding calendar year consistent with the monitoring required by this permit, as follows:
 - a. identify each term or condition set forth in Section 3 through Section 10, that is the basis of the certification;

- b. briefly describe each method used to determine the compliance status;
 - c. state whether compliance is intermittent or continuous; and
 - d. identify each deviation and take it into account in the compliance certification;
- 56.2. In addition, submit a copy of the report directly to the EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.205 & 50.326(j), 10/1/04 & 50.345(a) & (j), 5/03/02]
[40 C.F.R. 71.6(c)(5), 7/1/04]

Section 11. Approved Drilling Rigs

Table C – Approved Drilling Rigs

Equipment Type	Drill Rig								
	Doyon 9			Doyon 14			Doyon 15		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat D398	912	bhp	Cat D399	1212	bhp	CAT 3516	2150	bhp
	Cat D398	912	bhp	Cat D399	1212	bhp	CAT 3516	2150	bhp
	Cat D399	1212	bhp	Cat D399	1212	bhp	CAT 3516	2150	bhp
	Cat D398	912	bhp	Cat D966	225	bhp	CAT 399	1215	bhp
	Cat D398	912	bhp	GMC Lincoln	75	bhp	CAT 3304	150	hp
	Cat D3406	270	bhp	Cat D75P1	75	kW	Perkins SA-250	75	hp
	Cat D3406	305	bhp	Cat D379	612	bhp			
	Wauk VRD-232U	100	bhp	Cat D379	612	bhp			
	Wauk VRD-232U	100	bhp						
	Cat D379B	612	bhp						
	Cat D379B	612	bhp						
	Lister BS649	16	bhp						
Boilers and Heaters	Boiler	100	hp	Boiler	100	hp	Boiler	100	hp
	Boiler	100	hp	Boiler	100	hp	Boiler	100	hp
	Heater	4	MMBtu/hr	Heater	4	MMBtu/hr	Heater	4.2	MMBtu/hr
	Heater	4	MMBtu/hr	Heater	0.185	MMBtu/hr	Heater	3.0	MMBtu/hr
							Heater	0.35	MMBtu/hr
Equipment Type	Drill Rig								
	Doyon 16			Doyon 19			Doyon 141		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat D398	825	bhp	Cat D398TA	700	kW	Cat D399	1215	bhp
	Cat D398	825	bhp	Cat D399TA	976	kW	Cat D399	1215	bhp
	Cat D398	825	bhp	Cat D398TA	700	kW	Cat D399	1215	bhp
	Cat D3406	350	bhp	Cat D398TA	700	kW	Cat D379	600	bhp
	Cat D3406	350	bhp	Cat D399TA	976	kW	Cat D379	600	bhp
	Lister ST3A	40	bhp	Cat D398TA	700	kW	Cat D3406	305	bhp
				Cat 3176	180	kW	Perkins	46.5	bhp
				Cat 3176	180	kW	Lister	40	bhp
				Cat 379TA	379	kW	Lister	40	bhp
				Cat 379TA	379	kW	Lister	40	bhp
				Cat 3406	376	hp	Perkins	46.9	bhp
				Cat 3114	105	hp	Deutz F3L912	44	bhp
				Detroit	300	kW	Cat 3306	155	kW
Boilers and Heaters				Detroit	160	kW			
				Boiler	1.3	MMBtu/hr			
	Boiler	100	hp	Boiler	100	hp	Boiler	100	hp
	Boiler	100	hp	Boiler	100	hp	Boiler	100	hp
	Heater	4	MMBtu/hr	Heater	4.2	MMBtu/hr	Heater	3.5	MMBtu/hr
				Heater	3.5	MMBtu/hr	Heater	4.2	MMBtu/hr
				Heater	4	MMBtu/hr	Heater	0.6	MMBtu/hr
							Heater	0.35	MMBtu/hr

Approved Drill Rigs (Continued)

Equipment Type	Drill Rig								
	Nabors 2ES			Kuukpik 5			Nabors 4ES		
	Equipment	Rating	Units				Equipment	Rating	Units
Engines	Cat D398	912	bhp	Detroit Diesel Series 60	600	bhp	Cat 3412	831	bhp
	Cat D398	912	bhp	Detroit Diesel Series 60	600	bhp	Cat 3412	831	bhp
	Cat D399	912	bhp	Detroit Diesel Series 60	600	bhp	Cat 3412	831	bhp
	Cat D3304	135	bhp	Detroit Diesel Series DDEC IV	800	bhp	Cat 3306	208	bhp
	Cat D353	314	bhp	Detroit Diesel Series DDEC IV	800	bhp	Deere 245	56	bhp
				Cummins 4BT 3.0-G2	102	bhp	Cummins 130	84	bhp
				Kubota	10	kW	Cat 3304	121	bhp
				Kubota D-1105	8	kW	Perkins 330	84	bhp
				Kubota D-1105	8	kW	Detroit 2250015	60	bhp
				Kubota D-1105	8	kW			
Boilers and Heaters	Boiler	150	hp	Boiler	80	hp	Boiler	24	gph
	Boiler	150	hp	Boiler	80	hp	Boiler	24	gph
	Heater	2.5	MMBtu/hr	Heater	2.0	MMBtu/hr	Heater	30	gph
	Heater	0.23	MMBtu/hr	Heater	1.0	MMBtu/hr	Heater	30	gph
	Heater	0.23	MMBtu/hr	Heater	0.65	MMBtu/hr	Heater	18	gph
				Heater	0.188	MMBtu/hr	Heater	1.65	gph
				Heater	0.188	MMBtu/hr	Heater	1.65	gph
Equipment Type	Drill Rig								
	Nabors 7ES			Nabors 9ES					
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat 3512B	1477	bhp	Cat 3512B	1477	bhp			
	Cat 3512B	1477	bhp	Cat 3512B	1477	bhp			
	Cat 3412	831	bhp	Cat 3412	831	bhp			
Boilers and Heaters	Boiler	150	hp	Boiler	150	hp			
	Boiler	150	hp	Boiler	150	hp			
	Heater	2.5	MMBtu/hr	Heater	2.5	MMBtu/hr			
	Heater	0.23	MMBtu/hr	Heater	0.23	MMBtu/hr			
	Heater	0.23	MMBtu/hr	Heater	0.23	MMBtu/hr			

Approved Drill Rigs (Continued)

Equipment Type	Drill Rig								
	Nabors 14E			Nabors 17E			Nabors 18E		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat D398	600	kW	Cat D398TA	700	kW	Cat D398	800	kW
	Cat D398	600	kW	Cat D399TA	700	kW	Cat D398	800	kW
	Cat D398	600	kW	Cat D398TA	700	kW	Cat D398	800	kW
	Cat D398	600	kW	Cat D398TA	700	kW	Cat D398	800	kW
	Cat D398	600	kW	Cat D399TA	700	kW	Cummins	260	kW
	Cat D353	300	kW	Cat D3304PC	90	kW	NTA 855 GS		
	Cat D353	300	kW	Cat 379PC	600	bhp	Cummins	100	kW
				Cat 3406DI	210	kW	400F0C44FD		
				Cat D353E	250	kW	Cat D379	600	kW
				Det 1063700	unknown		Cat D379	600	kW
				Deere 4276TF001	50	kW	Det 35GD-45	30	kW
				Cat D3304	90	kW	Det 35GD-45	30	kW
				Lister ST2A	8	kW			
				Cat D3304	90	kW			
Boilers and Heaters	Boiler	100	hp	Boiler			Boiler	7.07	MMBtu/hr
	Boiler	100	hp	Boiler			Boiler	6.35	MMBtu/hr
	Heater	3.5	MMBtu/hr	Heater	3.5	MMBtu/hr	Heater	4.2	MMBtu/hr
	Heater	3.5	MMBtu/hr	Heater	3.5	MMBtu/hr	Heater	2	MMBtu/hr
				Heater	3.5	MMBtu/hr	Heater	0.185	MMBtu/hr
				Heater	2.4	MMBtu/hr	Heater	0.180	MMBtu/hr
				Heater	1.5	MMBtu/hr			
				(5) Heaters	0.23	MMBtu/hr each			

Approved Drill Rigs (Continued)

Equipment Type	Drill Rig								
	Nabors 19E			Nabors 22E			Nabors 27E		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Unknown	1350	bhp	Cat D399TA	1000	bhp	Cat D399TA	1000	bhp
	Unknown	1350	bhp	Cat D399TA	1000	bhp	Cat D399TA	1000	bhp
	Unknown	1350	bhp	Cat D399TA	1000	bhp	Cat D399TA	1000	bhp
	Unknown	252	bhp	Cat D399TA	1000	bhp	Cat D399TA	1000	bhp
	Unknown	120	bhp	Cat D3304	135	bhp	Cat D3304	135	bhp
				Cat D3306TA	200	bhp	Cat D3306TA	200	bhp
				Cat D3304	97	bhp	Cat D3304	135	bhp
				Det 353	40	bhp	Wauk VRD330	79	bhp
				Wauk VRD330	79	bhp	Wauk VRD31	61	bhp
				Cat D3406	449	bhp	Cat D3304	200	bhp
				Cat D3406	449	bhp	Perkins JA306	102	bhp
				Perkins JA306	102	bhp			
Boilers and Heaters	Boiler	4.5	MMBtu/hr	Boiler	30	gph	Boiler	30	gph
	Boiler	4.5	MMBtu/hr	Boiler	45	gph	Boiler	45	gph
	Heater	0.42	MMBtu/hr	Heater	30	gph	Heater	30	gph
	Heater	0.42	MMBtu/hr	Heater	18	gph	Heater	18	gph
	Heater	2.5	MMBtu/hr	Heater	1.25	gph	Heater	3	gph
				Heater	1.65	gph	Heater	3	gph
Equipment Type	Drill Rig								
	Nabors 28E			Nabors 245			Nabors 429		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat D398	800	kW	Cat D399	1125	hp	Cat D399	1050	kW
	Cat D399	1050	kW	Cat D399	1125	hp	Cat D399	1050	kW
	Cat D399	1050	kW	Cat D399	1125	hp	Cat D399	1050	kW
	Cat D398	800	kW	Cat D399	1125	hp	Cat D399	1050	kW
	Cat D3412	620	kW				Cat D379	350	kW
	Cat D3412	620	kW						
	Cat D3406DI	300	kW						
	Cat D3406DI	300	kW						
	Cat D3304B DI	60	kW						
Boilers and Heaters	Boiler	150	hp	Unknown			Boiler	100	hp
	Boiler	150	hp				Boiler	100	hp
	Heater	4.2	MMBtu/hr				Heater	2.4	MMBtu/hr

Approved Drill Rigs (Continued)

Equipment Type	Drill Rig								
	Nordic 1			Nordic 2			Nordic 3		
	Equipment	Rating	Units	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat 3412	1000	bhp	Cat 3412	700	bhp	Cat 3512	1450	bhp
	Cat 3412	1000	bhp	Cat 3412	700	bhp	Cat 3512	1450	bhp
	Cat 3412	700	bhp	Cat 3412	700	bhp	Cat 3512	1450	bhp
							Cat 3406	600	bhp
							Cat 3406	600	bhp
Boilers and Heaters	Boiler	80	hp	Boiler	80	hp	Boiler	80	hp
	Boiler	80	hp	Boiler	80	hp	Boiler	80	hp
	Heater	4.5	MMBtu/hr	Heater	4.5	MMBtu/hr	Heater	4.2	MMBtu/hr

Equipment Type	Drill Rig					
	Nabors 16E			Nabors 33E		
	Equipment	Rating	Units	Equipment	Rating	Units
Engines	Cat D398	900	hp	Cat 399TA SCAC	1050	kW
	Cat D398	900	hp	Cat 399TA SCAC	1050	kW
	Cat D398	900	hp	Cat 399TA SCAC	1050	kW
	Cat D398	900	hp	Cat 399TA SCAC	1050	kW
	Cat D398	900	hp	Cat 399TA SCAC	1050	kW
	Cat D398	900	hp	Cat 399TA SCAC	1050	kW
	Cat 3304 cold start generator	90	kW	Cat D379 cold start generator	400	kW
Boilers and Heaters	Boiler	100	Bhp	Boiler	150	Bhp
	Boiler	100	Bhp	Boiler	150	Bhp
	Boiler	60	Bhp	Heater	0.4	MMBtu/hr
	Boiler	60	Bhp			

Alternative drill rigs may be used in accordance with the provisions of condition 12.1 of this permit.

Section 12. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290, and based on information supplied in the permit application, this section of the permit contains the requirements determined by the department not to be applicable to the Transportable Drilling Rigs.

57. Nothing in this permit shall alter or affect the following:

57.1. The provisions of section 303 of the Act (emergency orders), including the authority of the Administrator under that section; or

57.2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(f)(3)(i) and (ii), 7/1/04]

58. Table D identifies the emission units that are not subject to the specified requirements at the time of permit issuance. If any of the requirements listed in Table D become applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction permit, and/or applying for an operating permit revision.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(f)(1)(ii), 7/1/04]

Table D – Permit Shields Granted

Emissions Unit Description	Non-Applicable Requirements	Reason for Non-Applicability
Liquid Fuel-Fired Heaters, Boilers and Snow Melter(s)	40 CFR 60 Subpart D - Standards of Performance for Fossil Fuel-Fired Steam Generators	Heat input capacities below threshold (250 MMBtu/hr); and units not classified as <i>Fossil-Fuel-Fired Steam Generators</i> , as defined in subpart.
	40 CFR 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units	Heat input capacities below threshold (250 MMBtu/hr); and units not classified as <i>Electric Utility Steam Generating Units</i> , as defined in subpart.
	40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	Heat input capacities below threshold (100 MMBtu/hr).
	40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Heat input capacities below threshold (10 MMBtu/hr).
Petroleum Liquid Storage Tanks	40 CFR 60 Subpart K and Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids	Design capacity of all storage tanks is less than 40,000 gallons.

Emissions Unit Description	Non-Applicable Requirements	Reason for Non-Applicability
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks < 40 m ³ Capacity	40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Design capacity is less than 10,567 gallons.
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks ≥ 40 m ³ Capacity	40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Design capacity is less than 75 m ³ ; or design capacity is > 75 m ³ , but ≤151 m ³ with a maximum true vapor pressure (TVP) of the stored liquid(s) less than 2.2 psia; or design capacity ≥151 m ³ with a maximum TVP of the stored liquid(s) less than 0.5 psia.
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks ≤ to 420,000 gallon Capacity Used for Petroleum or Condensate Stored, Processed, or Treated Prior to Custody Transfer	40 CFR 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids	Subpart K does not apply to storage vessels for petroleum or condensate stored, processed, and/or treated at a drilling rig prior to custody transfer [ref. §60.110(b)].
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks ≤ to 420,000 gallon Capacity Used for Petroleum or Condensate Stored, Processed, or Treated Prior to Custody Transfer	40 CFR 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids	Storage tanks with a design capacity less than 420,000 gallons used for petroleum or condensate stored, processed, and/or treated at a drilling rig prior to custody transfer are exempt from 40 CFR 60 Subpart Ka [ref. §60.110a(b)].
Volatile Organic Liquid (Including Petroleum Liquid) Storage Tanks ≤ to 1,589.874 m ³ Capacity Used for Petroleum or Condensate Stored, Processed, or Treated Prior to Custody Transfer	40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Storage tanks with a design capacity less than or equal to 1,589.874 m ³ used for petroleum or condensate stored, processed, and/or treated at a drilling rig prior to custody transfer are exempt from 40 CFR 60 Subpart Kb [ref. §60.110b(d)(4)].
Non-road Engines	18 AAC 50.055(a)(1) – Fuel-Burning Equipment Emission Standards: Visible Emissions. 18 AAC 50.055(b)(1) - Fuel-Burning Equipment Emission Standards: Particulate Matter. 18 AAC 50.055(c) – Fuel-Burning Equipment Emission Standards: Sulfur Compound Emissions.	Non-road engine is defined in 18 AAC 50.990(63) and has the meaning given in 40 C. F. R. 89.2. The definition of mobile internal combustion engines under Title II of the Clean Air Act includes non-road engines, therefore DEC agrees to shield the non-road engines from the State Implementation Plan (SIP) standards .
Stationary Source-Wide	40 CFR 61 - National Emission Standard for Hazardous Air Pollutants	The stationary source does not operate emission units affected by NESHAPs under Part 61.
	40 CFR 61 Subpart A - General Provisions	Requirements only apply to emission units subject to any provisions of 40 CFR 61.
	40 CFR 61 Subpart M - National Emission Standard for Asbestos	Stationary source does not operate any emission unit, or engage in any activity specified by §61.142 through §61.151, §61.154 and §61.155.

Emissions Unit Description	Non-Applicable Requirements	Reason for Non-Applicability
	40 CFR 61 Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources)	Stationary source has no process components in volatile hazardous air pollutant (VHAP) service, as defined by Subpart (\geq 10 percent VHAP by weight).
	40 CFR 63 National Emission Standards for Hazardous Air Pollutants for Emission Unit Categories.	<p>Emission units are exempt from the provisions of 40 CFR 63 when the stationary source activities do not occur in a HAPs major source.</p> <p>The HAPs shield is granted by the department under the provisions of Section 112(n)(4)(A) of the Clean Air Act -- "Notwithstanding the provisions of subsection (a), emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or common control, to determine whether such units or stations are major sources, and in the case of any oil or gas exploration or production well (with its associated equipment), such emissions shall not be aggregated for any purpose under this section. "</p>
	40 CFR 64 - Compliance Assurance Monitoring	No pollutant-specific emission unit uses a control device to achieve compliance with any emission limitation or standard.
	40 CFR 68 - Accidental Release Prevention Requirements: Risk Management Programs [§ 112(r)]	"Naturally occurring hydrocarbon mixtures" (crude oil, condensate, natural gas and produced water), prior to entry into a petroleum refining process unit (NAICS code 32411) or a natural gas processing plant (NAICS code 211112) are exempt from the threshold determination. (See Final Rule exempting from threshold determination regulated flammable substances in naturally occurring hydrocarbon mixtures prior to initial processing, 63 FR 640 [January 6, 1998]). Less than 10,000 lbs. of other mixtures containing regulated flammable substances that meet the criteria for an NFPA rating of 4 for flammability are stored at the stationary source. Therefore, the drilling rigs do not process or store regulated flammable or toxic substances in excess of threshold quantities.
Stationary Source-Wide	40 CFR 82 -- Protection of Stratospheric Ozone	The stationary source does not handle Class I or Group I or II substances or products (including Halon and Halon blends).

Section 13. Visible Emissions Forms

Visible Emissions Field Data Sheet

Certified Observer: _____

Company &

Stationary

Source: _____

Location: _____

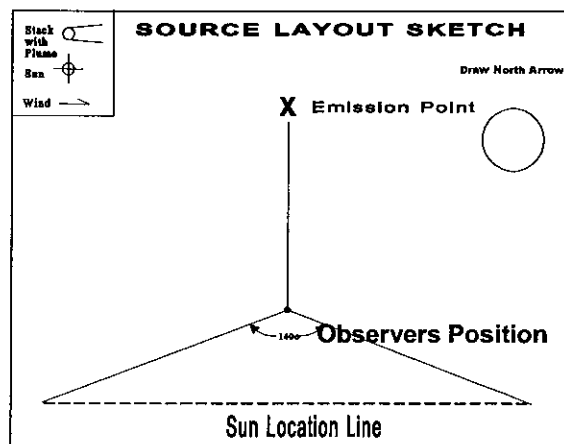
Test No.: _____ Date: _____

Emission Unit: _____

Production Rate/Operating
Rate: _____

Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Page _____ of _____

Clock Time

[illegible]

Certified By and Date

In compliance with six-minute opacity limit? (Yes or No)

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 14. Material Balance Calculation

If the sulfur content of a fuel shipment is greater than 0.75% by weight, calculate the three-hour exhaust concentration of SO₂ using the following equations:

$$\begin{aligned}
 A. &= 31,200 \times [\text{wt}\%S_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 B. &= 0.148 \times [\text{wt}\%S_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 C. &= 0.396 \times [\text{wt}\%C_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 D. &= 0.933 \times [\text{wt}\%H_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 E. &= B + C + D = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 F. &= 21 - [\text{vol}\%_{\text{dry}}O_{2, \text{exhaust}}] = 21 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 G. &= [\text{vol}\%_{\text{dry}}O_{2, \text{exhaust}}] \div F = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 H. &= 1 + G = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 I. &= E \times H = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{SO}_2 \text{ concentration} &= A \div I = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ ppm}
 \end{aligned}$$

The **wt%*S*_{fuel}**, **wt%*C*_{fuel}**, and **wt%*H*_{fuel}** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 9.1. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%*O*_{2, exhaust}**) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%*S*_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%*O*_{2, exhaust}** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.346(c), 10/1/04]

Section 15. ADEC Notification Form¹⁰

Stationary Source Name

Air Quality Permit Number

Company Name

When did you discover the Excess Emissions/Permit Deviation?

Date: ____ / ____ / ____ Time: ____ : ____

When did the event/deviation occur?

Begin Date: ____ / ____ / ____ Time: ____ : ____ (please use 24hr clock)

End Date: ____ / ____ / ____ Time: ____ : ____ (please use 24hr clock)

What was the duration of the event/deviation?: ____ : ____ (hrs:min) or ____ days
(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for Notification: (please check only 1 box and go to the corresponding section)

☐ Excess Emissions - Complete Section 1 and Certify.

☐ Deviation from Permit Condition - Complete Section 2 and Certify

☐ Deviations from COBC, CO, or Settlement Agreement - Complete Section 2 and Certify

Section 1. Excess Emissions

(a) Was the exceedance: ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies):

☐ Start Up /Shut Down

☐ Natural Cause (weather/earthquake/flood)

☐ Control Equipment Failure

☐ Scheduled Maintenance/Equipment Adjustment

☐ Bad fuel/coal/gas

☐ Upset Condition

☐ Other _____

(c) Description

Describe briefly, what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emissions Units Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

Unit ID	Unit Name	Permit Condition Exceeded/Limit/Potential Exceedance

¹⁰ Revised as of August 24, 2006.

(e) Type of Incident (Please Check only one).

- ☐ Opacity _____ % ☐ Venting _____ (gas/scf) ☐ Control Equipment Down
☐ Fugitive Emissions ☐ Emission Limit Exceeded ☐ Flaring
☐ Marine Vessel Opacity ☐ Other: _____

(f) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable? ☐ Yes ☐ No

Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐ Yes ☐ No

Certify Report (go to end of form)

Section 2 Permit Deviations

(a) Permit Deviation Type (check one only box, corresponding with the section in the permit).

- ☐ Emission Unit Specific
☐ Failure to monitor/report
☐ General Source Test/Monitoring Requirements
☐ Recordkeeping/Reporting/Compliance Certification
☐ Standard Conditions Not Included in Permit
☐ Generally Applicable Requirements
☐ Reporting/Monitoring for Diesel Engines
☐ Insignificant Emission Unit
☐ Record Keeping Failure
☐ Stationary Source Wide
☐ Other Section _____ (title of section and section number of your permit).

(b) Emission Unit Involved.

Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding permit conditions and the deviation.

Unit ID	Unit Name	Permit Condition / Potential Deviation

(c) Description of Potential Deviation:

Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:

Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

(e) Corrective Actions:

Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: _____ Title: _____ Date: _____

Signature: _____ Phone Number: _____

To Submit this Report:

Fax to: 907-451-2187;

Email to: airreports@dec.state.ak.us - *if emailed, the report must be certified within the Operating Report required for the same reporting period per condition 47;*

Mail to: ADEC, Air Permits Program, 610 University Avenue, Fairbanks, AK 99709-3643;

Phone Notification: 907-451-5173 - *phone notifications require a written follow-up report within the deadline listed in condition 46; OR*

Online Submission: *(Website is not yet available) - if submitted online, the report must be certified within the Operating Report required for the same reporting period per condition 47.*

Alaska Department of Environmental Conservation

Air Permits Program

ConocoPhillips Alaska, Inc.

Transportable Drilling Rigs

STATEMENT OF BASIS

of the terms and conditions for

Permit No. AQ0909TVP01

Prepared by Scott Bailey

November 30, 2007

INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0909TVP01.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0909TVP01 contains information on the stationary source as provided in the Title V permit application.

The transportable drilling rigs authorized under this permit are owned and operated by contractors. However, ConocoPhillips Alaska, Inc. is the Permittee for the operating permit. The SIC code for the stationary source is 1311. The NAICS code for the stationary source is 211111.

“Transportable Drilling Rigs ” as defined and allowed under this permit include operations that move from site to site to drill one or more oil or gas wells, and that uses drill rigs, equipment associated with drill rigs and drill operations, camps, or equipment associated with camps. “Transportable Drilling Rigs” do not include well servicing activities. An air quality permit is not required to conduct well servicing activities as defined below.

“Well Servicing Activities” means the use of portable equipment for servicing existing oil and gas wells that only stays on site for short and varying periods of time and includes the use of

- (A) coiled tubing units;
- (B) well frac units;
- (C) well slickline units;
- (D) well hot oil units; and
- (E) well wireline units.

EMISSION UNIT INVENTORY AND DESCRIPTION

Under 18 AAC 50.326(a), the department requires operating permit applications to include identification of “regulated emission units” and all emissions-related information, as described under 40 CFR 71.5(c)(3).

As provided in the application, the “worst case” drilling rig for modeling purposes operates five drilling engines, two rig electric generator engines, two camp electric generator engines, and ten light generator engines (light plants). The modeled rig also operates two rig boilers, three rig heaters, six portable heaters and a camp snow melter. The modeled inventory did not include a test heater, an incinerator, or a well test flare. Therefore, they are not included on the permitted emission unit inventory of Operating Permit No. AQ0909TVP01. This equipment set was modeled as a worst-case scenario for impacts on ambient air quality standards. Other rigs may be substituted for the modeled rig at specific drill sites during the term of this permit.

The approved drilling rigs with emission unit group ratings that do not exceed the allowed “worst case” inventory group ratings are listed in Section 11 of the permit. The location area of the drilling rigs is shown in Figure 1 at the end of the Statement of Basis.

AMBIENT AIR QUALITY MODELING

The exploratory gas drilling rigs contain a variety of drilling engines, boilers and heaters. As a requirement for obtaining these permits, air quality modeling was performed to demonstrate compliance with state regulations concerning human health, enjoyment of life and property, and plants and wildlife. The department approved the CPAI modeling for the inventory group ratings as listed in Section 11 on February 1, 2006.

Table A of Operating Permit No. AQ0909TVP01 contains information on the categories of emission units on transportable drilling rigs regulated by this permit as provided in the application. The table is provided for informational and identification purposes only.

EMISSIONS

A summary of the potential to emit (PTE)¹ and assessable PTE as indicated in the application from the Transportable Drilling Rigs is shown in the table below.

Table A -- Emissions Summary, in Tons Per Year (TPY)

Pollutant	NO _x	CO	PM-10	SO ₂	VOC	HAP	Total
PTE	2,772	835	46	298	637	18	4,588
Assessable PTE	2,772	835	46	298	637	0	4,588

The assessable PTE listed under condition 23.1 is the sum of the emissions of each individual regulated air pollutant for which the stationary source has the potential to emit quantities greater than 10 TPY. The emissions listed in Table A are estimates that are for informational use only. The listing of the emissions does not create an enforceable limit to the stationary source.

For criteria pollutants, emissions are as provided in the application, as follows: nitrogen oxides, carbon monoxide, particulate matter (PM-10), sulfur oxides and volatile organic compounds.

For HAPs, emissions are not included in the total since individual HAP emissions are already accounted for in the VOC emissions total. The emission rate of the maximum individual HAP species is 7.24 TPY. HAP emissions are as provided in the application.

BASIS FOR REQUIRING AN OPERATING PERMIT

In accordance with 18 AAC 50.326(a), an owner or operator of a Title V source² must obtain a Title V permit consistent with 40 C.F.R. Part 71, as adopted by reference in 18 AAC 50.040. The Transportable Drilling Rig operations inside Part 71 sources within the KRU require a separate operating permit

¹ *Potential to Emit or PTE* means the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source, as defined in AS 46.14.990(23), effective 12/3/05.

² "Title V source" means a stationary source classified as needing a permit under AS 46.14.130(b) [ref. 18 AAC 50.990(111)].

because the operating permits authorizing KRU Part 71 source operations do not directly address in-field transportable drill rig activities.

CURRENT AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

No previous air quality control permit-to-operate incorporates these activities which have historically occurred in the KRU.

Construction Permits

No construction permits after January 18, 1997 (the effective date of the new divided operating and construction-permitting program) incorporate these activities which have historically occurred in the KRU.

Title V Operating Permit Application, Revisions and Renewal History

The owner or operator submitted an application on July 6, 2005.

The owner or operator amended this application on July 25, 2005.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The state and federal regulations for each condition are cited in Operating Permit No. AQ0909TVP01.

Conditions 1 - 4 & 16, Visible Emissions Standard and Monitoring, Recordkeeping and Reporting (MR&R)

Applicability: This regulation applies to all “fuel-burning equipment” in Alaska. The emission units “Heaters and Boilers” are fuel-burning equipment. The Rig/Camp engines and light plants are classified as non-road engines, which are not included in the definition of “fuel-burning equipment”.

Factual basis: Conditions 1 through 4 and 16 require the Permittee to comply with the Federal and the State visible emission standards applicable to fuel-burning equipment. The Permittee shall not cause or allow the equipment to violate these standards.

These conditions have been adopted into regulation as standard conditions. MR&R requirements are listed in conditions 1 through 4, and 16 of the permit.

The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the State's emission standards for visible emissions.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from emission units either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Based on the over 120 visible emission observations CPAI provided for the drill rigs in Section 11, the department agrees to reduce the step-wise monitoring for visible emissions to only annual observations.

Liquid Fired Emission Units:

Monitoring – The visible emissions must be observed yearly for all emission units operated more than seven consecutive days during a calendar year at the site governed by this permit using Method 9. The visible emission forms for Method 9 are found in Section 13 of this permit.

Recordkeeping - The Permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report: 1) emissions in excess of the Federal and the State visible emissions standard, and 2) deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Conditions 5 - 8 & 17, Particulate Matter (PM) Standard

Applicability: The PM standard applies to operation of all fuel burning equipment in Alaska. The emission units “Heaters and Boilers” are fuel-burning equipment. The Rig/Camp engines and light plants are classified as non-road engines, which are not included in the definition of “fuel-burning equipment”. The SIP standard for PM applies to all fuel-burning equipment because it is contained in the federally approved SIP dated October 1983.

Factual basis: Conditions 5 through 8 and 17 of the permit require the Permittee to comply with the state PM (also called grain loading) standard applicable to fuel-burning equipment. The Permittee shall not cause or allow fuel-burning equipment to violate this standard.

MR&R requirements are listed in conditions 6 through 8 and 17 of the permit.

The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the State's emission standards for particulate matter.

These conditions detail a stepwise process for monitoring compliance with the State's particulate matter standards for liquid fired emission units. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, and boilers. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program. Monitoring frequencies for liquid hydrocarbon fuels are detailed in these conditions.

Liquid Fired Emission Units:

Monitoring – The Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of PM source tests.

Reporting - The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, and 2) results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Condition 9, Sulfur Compound Emissions

Applicability: The sulfur emission standard applies to operation of all fuel-burning equipment in the State of Alaska. The emission units “Heaters and Boilers” are fuel-burning equipment. The SIP standard for sulfur dioxide applies because it is contained in the federally approved SIP dated October 1983. The Rig/Camp engines and light plants are classified as non-road engines, which are not included in the definition of “fuel-burning equipment”.

Factual basis: The condition requires the Permittee to comply with the sulfur compound emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow the affected equipment to violate this standard.

Sulfur dioxide comes from the sulfur in the liquid, hydrocarbon fuel (e.g. diesel or no. 2 fuel oil). Fuel containing no more than 0.75 percent sulfur by weight will always comply with the emission standard. For fuels with a sulfur content higher than 0.75 percent, the condition requires the Permittee to use Section 14 to calculate the sulfur dioxide concentration using the equations to show that the standard is not exceeded.

Fuel sulfur testing will verify compliance.

Recordkeeping - For diesel fuel, the Permittee is required to record the fuel sulfur content or fuel grade of each shipment and all material balance calculations.

Reporting – The Permittee is required to report State excess emissions whenever the fuel combusted causes sulfur compound emissions to exceed the standards in this condition. The Permittee is required to include the material balance calculations for fuel oil in the excess emissions report.

The Permittee is required to include copies of the records mentioned in the previous paragraph with the operating report.

Conditions 10 through 13, Owner Requested Limits for Location and Site Restrictions

Legal Basis: 40 CFR 71.6(a)(13)(i) provides operational flexibility for the permittee to make source changes without a permit modification, provided the changes are not modifications under any part of Title I, such as using up to twelve requested drill rigs within the boundaries of the Title V source. This provision and 40 CFR 71.6(e) are incorporated by reference in 18 AAC 50.040(j) and AS 46.14.215.

The Alaska Air Quality Control operating permit statute for temporary operations requires the permitting agency to include conditions that will ensure compliance with ambient air quality standards and applicable increments or visibility requirements. The Department developed these conditions because they are necessary to assure compliance with the ambient air quality standards in 18 AAC 50.015. 40 CFR 71.6(e) requires the permitting authority to include within an operating permit conditions that will assure compliance with all applicable requirements at all authorized locations. One requirement is to assure compliance with ambient air quality standards.

Factual basis:

The department derived restrictions for Condition 12 based upon CPAI’s owner request to use up to twelve drill rigs within the Kuparuk River Unit Source.

The department derived restrictions and operating limits for Conditions 10, 11, 12 and 13 from the applicant’s assumptions for modeling conducted and submitted as part of the July 6, 2005 KRU

drilling activity permit application. The department amended these limits through its modeling findings documented in a February 1, 2006 memorandum on behalf of this project. These restrictions are intended to ensure that the applicant's activities do not cause or contribute to ambient air quality violations.

The applicant did not include in the application a demonstration that shows PSD increments are protected except through reference to its previous demonstration in support of a Title I permit for modifications at KRU well pad 1B. This increment demonstration is representative only for the site described in the Title I permit documents.

Also, the applicant did not assess cumulative ambient impacts at sales oil production pads.

This permit restricts activities at drill sites and restricts operations at sales oil production sites for which the applicant's demonstration does not represent. The location and site restrictions contained in Conditions 11 through 13 are designed to protect the short-term and annual air quality standards for sulfur dioxide, nitrogen dioxide, and particulate matter, but not PSD increments.

- Condition 10 restricts fuel consumption from these activities.
- Condition 11 requires CPAI to demonstrate compliance with ambient standards at production sales pads and the Seawater Treatment Plant before CPAI conducts drilling activities under this permit at those sites.
- Condition 12 imposes operational limits within Part 71 Sources of CPAI's Kuparuk River Unit under this permit.
- Condition 13 requires department authorization before conducting drilling activities beyond those defined as temporary construction activities (TCA) as defined in 18 AAC 50.990(107).

When drilling activities at a given site extend beyond a consecutive 24-month period from start-up, including periods of inactivity, these activities do not meet the definition of TCA and require additional ambient review for PSD increment protection.

To prevent long-term erosion of air quality, the Department will not consider intermittent recurring drilling activities at a given site as TCA unless separated by greater than 24-months of inactivity.

See the staff position paper October 26, 2007 regarding CPAI's temporary construction operations. The Department determined the most direct way to manage Alaskan air resources and prevent significant deterioration of air quality is to allow a period for ambient air quality during periods of inactivity to return to pre-activity level.

PSD increments are based on averaging periods of up to 12 months for particulate matter, nitrogen dioxide and sulfur dioxide standards. The first 12 months after conclusion of prior drilling activities are necessary for the 12-month rolling effects of the previous drilling activities to dissipate. The air quality should return to pre-drilling air quality for no less than the duration of the averaging period before another drilling project starts unless the Department approves a permittee demonstration that the resumption of activities comply with increments.

Condition 14, Owner Requested Limit for Liquid Fuel Sulfur Content

Applicability: Applies because the Permittee requested these operating restrictions to assure compliance with the ambient air quality standards in 18 AAC 50.215(d).

Factual basis: The liquid fuel sulfur limit of condition 14 limits the sulfur content to no greater than 0.25 percent in order to protect the short-term and annual air quality standards for sulfur dioxide.

Conditions 15 - 18, Insignificant Emission Units

Applicability: These general emission standards apply to all industrial processes, fuel-burning equipment, and incinerators, regardless of size.

Factual basis: The conditions reiterate the general standards and require compliance for insignificant emission units. The Permittee may not cause or allow their equipment to violate these standards. Insignificant emission units are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The department finds that the insignificant emission units at this stationary source do not need specific monitoring, recordkeeping and reporting to ensure compliance under these conditions.

Condition 15.1 requires certification that the emission units did not exceed State emission standards during the previous year and did not emit any prohibited air pollution.

State air quality regulations adopted effective May 3, 2002 allow for an average six-minute opacity observation. The existing regulation, limiting opacity to no more than 20 percent for more than 3 minutes in any one hour, is included because EPA Region X has not formally approved the changed opacity regulation as part of Alaska's State Implementation Plan (SIP).

Conditions 19 - 21, Permit Applicability

Applicability: Applies because these are standard conditions to be included in all permits.

Factual Basis: These are standard conditions required for all operating permits.

Condition 22, Administration Fees

Applicability: This condition requires the permittee, owner, or operator to pay administration fees as set out in regulation. Paying administration fees is required as part of obtaining and holding a permit with the department or as a fee for a department action.

Factual Basis: The owner or operator of a stationary source who is required to apply for a permit under AS 46.14.130 shall pay to the department all assessed permit administration fees. The regulations in 18 AAC 50.400-405 specify the amount, payment period, and the frequency of fees applicable to a permit action

Conditions 23 - 24, Emission Fees

Applicability: The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions.

Factual Basis: These standard conditions require the Permittee to pay fees in accordance with the department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The default assessable emissions are emissions of each air pollutant authorized by the permit (AS 46.14.250(h)(1)(A)). Air pollutant means any regulated air pollutant and any hazardous air pollutant. Therefore, assessable emissions under AS 46.14.250(h)(1)(A) means the **potential** to emit any air pollutant identified in the permit, including those not specifically limited by the permit. For example, hydrogen chloride (HCl) emissions from an incinerator are assessable emissions because they are an air pollutant, even if there is currently no emission limit on HCl for that class of incinerator.

The conditions also describe how the Permittee may calculate **actual** annual assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1)(B), assessable emissions are based on each air pollutant. Therefore, fees based on actual emissions must also be paid on any pollutant emitted whether or not the permit contains any limitation of that pollutant.

This standard condition specifies that, unless otherwise approved by the department, calculations of assessable emissions based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emissions are based on the previous year, the department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match. The Permittee will normally pay for actual emissions - just with a one-year time lag.

Projected actual emissions may differ from the previous year's actual emissions if there is a change at the stationary source, such as changes in equipment or an emission rate from existing equipment.

If the Permittee does not choose to annually calculate assessable emissions, emissions fees will be based on "potential to emit" (PTE).

The PTE set forth in the condition is based on liquid fuel with a sulfur content of 0.25 percent by weight. If the actual sulfur content of the fuel is greater than this amount, the assessable emissions calculations provided by the Permittee should reflect the actual sulfur content.

Condition 25, Good Air Pollution Control Practice

Applicability: Applies to all emission units **except** NSPS regulated emission units.

Factual basis: The condition requires the Permittee to comply with good air pollution control practices for all emission units.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee or the rig operator is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the department. The department may use these records as a trigger for requesting source testing if the records show that maintenance has been deferred and the emission unit in question is subject to an emission limit.

Condition 26, Dilution

Applicability: This state regulation applies to the Permittee because the Permittee is subject to emission standards in 18 AAC 50.

Factual Basis: The condition prohibits the Permittee from diluting emissions as a means of compliance with any standard in 18 AAC 50.

Condition 27, Reasonable Precautions to Prevent Fugitive Dust

Applicability: Bulk material handling requirements apply to the Permittee because the Permittee will engage in bulk material handling, transporting, or storing; or will engage in industrial activity at the facility.

This condition applies to operating permits for facilities that do not have an approved dust control plan, and contain one of the following emission units: coal-fired boilers; coal handling facilities; construction of gravel pads or roads that are part of a permitted stationary source or other construction that has the potential to generate fugitive dust that reaches ambient air; commercial/industrial/municipal solid waste, air curtain, and medical waste incinerators; sewage sludge incinerators not using wet methods to handle ash; mines; urea manufacturing; soil remediation units; or dirt roads under the control of the operator with frequent vehicle traffic.

Factual Basis: The underlying regulation, 18 AAC 50.045(d), requires the Permittee to take reasonable action to prevent particulate matter (PM) from being emitted into the ambient air.

Condition 28, Stack Injection

Applicability: Stack injection requirements apply to the stationary source because the stationary source contains a stack or emission unit constructed or modified after November 1, 1982.

Factual Basis: The condition prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the emission unit or stack would need to be modified to accommodate stack injection.

Condition 29, Air Pollution Prohibited

Applicability: Air Pollution Prohibited requirements apply to the stationary source because the stationary source will have emissions.

Factual Basis: The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is required to report any complaints and injurious emissions. The Permittee must keep records of the date, time, and nature of all complaints received, provide a summary of the investigation and corrective actions undertaken for these complaints, and submit copies of these records upon request of the department.

The department will determine whether the necessary actions were taken. No corrective actions are necessary if the complaint is frivolous or there is not a violation of 18 AAC 50.110, however this condition is intended to prevent the Permittee from prejudging that complaints are invalid.

Condition 30, Technology-Based Emission Standard

Applicability: Technology Based Emission Standard requirements apply to the stationary source because the stationary source contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or other “technologically feasible” determinations.

Factual Basis: The Permittee is required to take reasonable steps to minimize emissions if certain activity causes an exceedance of any technology-based emission standard in this permit. The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with condition 46. Excess emission reporting under condition 46 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under condition 46.

Condition 31, Open Burning

Applicability: The open burning state regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning at the stationary source.

Factual Basis: The condition requires the Permittee to comply with the regulatory requirements when conducting open burning at the stationary source.

No specific monitoring is required for this condition. More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Additional monitoring is achieved through condition 29, which requires a record of complaints. Therefore, the department does not believe that additional monitoring is warranted.

Condition 32, Requested Source Tests

Applicability: This condition applies because this is a standard condition to be included in all permits.

Factual Basis: The Permittee is required to conduct source tests as requested by the department. Monitoring consists of conducting the requested source test.

Conditions 33 - 35, Operating Conditions, Reference Test Methods, Excess Air Requirements

Applicability: Apply because these are standard conditions to be included in all permits.

Factual Basis: The Permittee is required to conduct source tests as set out in conditions 33 through 35. These conditions supplement the specific monitoring requirements stated elsewhere in this permit. Compliance monitoring with conditions 33 through 35 consist of the test reports required by condition 40.

Condition 36, Test Exemption

Applicability: Applies because this is a standard condition to be included in all permits.

Factual Basis: As provided in 18 AAC 50.345(a), 5/03/02, the requirements for test plans,

notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 37 - 40, Test Deadline Extension, Test Plans, Notifications and Reports

Applicability: Apply because these are standard conditions to be included in all permits.

Factual Basis: Standard conditions 18 AAC 50.345(l) - (o) are incorporated through these conditions. These standard conditions supplement specific monitoring requirements stated elsewhere in this permit. The source test itself monitors compliance with this condition.

Condition 41, Particulate Matter (PM) Calculations

Applicability: Applies when the Permittee tests for compliance with the PM standard.

Factual Basis: The condition incorporates a regulatory requirement for PM source tests.

Condition 42, Recordkeeping Requirements

Applicability: Applies because the Permittee is required by the permit to keep records.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide an evidence of compliance with this requirement.

Condition 43, Certification

Applicability: Applies because this is a standard condition to be included in all permits.

Factual Basis: This condition requires the Permittee to certify all reports submitted to the department. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be **certified** with the operating report, even though it must still be **submitted** more frequently than the operating report. This condition supplements the reporting requirements of this permit.

Condition 44, Submittals

Applicability: Applies because the Permittee is required to send reports to the department.

Factual Basis: This condition requires the Permittee to send submittals to the address specified in this condition. Receipt of the submittal at the correct department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of this permit.

Condition 45, Information Requests

Applicability: Applies to all Permittees and incorporates a standard condition.

Factual Basis: This condition incorporates a standard condition in regulation, which requires the Permittee to submit information requested by the department. Monitoring consists of receipt of the requested information.

Condition 46, Excess Emission and Permit Deviation Reports

Applicability: Applies when the emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two State regulations related to excess emissions - the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

In accordance with 40 CFR 71.6(a)(3)(iii)(C), a deviation is not always a violation. For a situation lasting more than 24 hours which constitutes a deviation, each 24-hour period is considered a separate deviation. "Deviation" as defined in 40 CFR 71 means both "excess emission" and "permit deviation" as used in this permit, which includes:

1. a situation where emissions exceed an emission limitation or standard;
2. a situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;
3. a situation in which observations or data collected demonstrate non-compliance with an emission limitation or standard or any work practice or operating condition required by the permit (including indicators of compliance revealed through parameter monitoring);
4. a situation in which any testing, monitoring, recordkeeping or reporting required by this permit is not performed or not performed as required;
5. a situation in which an exceedance or an excursion, as defined in 40 CFR Part 64, occurs; and,
6. failure to comply with a permit term that requires submittal of a report.

In accordance with 18 AAC 50.990(34) "excess emissions" means emissions of an air pollutant in excess of any applicable emission standard or limitation, which is item 1 of the above definitions from 40 CFR 71. These definitions shall be considered in determining an "excess emissions" or "permit deviation" when reporting an occurrence using the ADEC notification form.

The reports themselves and the other monitoring records required under this permit provide monitoring of whether the Permittee has complied with the condition. Please note that there may be additional federally required excess emission reporting requirements.

Condition 47, Operating Reports

Applicability: Applies to all permits.

Factual Basis: The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit. The reports themselves provide monitoring for compliance with this condition.

Conditions 48 - 50, Permit changes and revisions requirements

Applicability: Apply because these are standard conditions to be included in all operating permits.

Factual Basis: These are standard conditions required for all operating permits when revisions, operational changes, or construction modifications occur in the stationary source. Trading of emissions increases and decreases as described in 40 CFR 71.6(a)(13)(iii) has not been requested by the Permittee. Therefore, a condition addressing these provisions has not been included in the permit under condition 50.

Condition 51, Permit Renewal

Applicability: Applies if the Permittee intends to renew the permit.

Factual Basis: In accordance with AS 46.14.230(a), this operating permit is issued for a fixed term of five years after the date of issuance, unless a shorter term is requested by the permit applicant. The Permittee is required to submit an application for permit renewal by the specific dates applicable to the transportable drilling rigs as listed in this condition. As stated in 40 CFR 71.5(a)(1)(iii), submission for a permit renewal application is considered timely if it is submitted at least six months but no more than eighteen months prior to expiration of the operating permit. For permit renewal, a complete application is one that provides all information required pursuant to 40 CFR 71.5(c) and must remit payment of fees owed under the fee schedule established pursuant to 18 AAC 50.400. According to AS 46.14.230(b), if a timely and complete application for renewal of an operating permit is submitted to the department, the existing permit does not expire until the renewal permit has been issued or denied. Monitoring, recordkeeping, and reporting for this condition consist of the application submittal.

Conditions 52 - 55, General Compliance Requirements

Applicability: Applies because these are standard conditions to be included in all permits.

Factual Basis: These are standard conditions required for all operating permits.

Condition 56, Annual Compliance Certification

Applicability: Applies to all Permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. The reports themselves provide monitoring for compliance with this condition.

Conditions 57 and 58, Permit Shield

Applicability Apply because the Permittee has requested a shield for the applicable requirements listed under condition 58.

Factual Basis: Table D of Operating Permit No. AQ0909TVP01 shows the permit shields that the department granted to the Permittee. The HAPS shield from 40 CFR 63 (NESHAPS) is granted by the department under the provisions of Section 112(n)(4)(A) of the Clean Air Act. The permit conditions set forth the requirements that the department determined were not applicable to the stationary source. The following table shows the requests that were denied and the reasons they were denied.

SHIELD REQUESTED FOR:	REASON FOR SHIELD REQUEST:	REASON FOR REQUEST DENIAL
Stationary Source-Wide		
18 AAC 50.045(b) – Prohibitions	The permit implements all applicable air quality requirements for the facility. Since compliance with the permit will constitute compliance with applicable local, state, or federal air quality laws, this requirement is not applicable to the facility.	These prohibitions are ongoing requirements and therefore cannot be shielded. They have not been placed in the permit because they add no value to the permit with respect to controlling facility emission sources. These prohibitions remain in effect because they are in regulation whether they appear in the facility operating permit or not.
18 AAC 50.045(c) – Prohibitions	This requirement will be implemented through 18 AAC 50.201, which is otherwise addressed in the permit. This requirement is not applicable because the department will impose any special requirements to protect ambient air quality through permit conditions adopted under 50.201.	Shielding the applicant from subparagraph (b) for instance would have the effect of shielding the applicant from all requirements contained in the Air Quality Control Regulations including the requirement to obtain a permit if the shield requested is granted.
Stationary Source-Wide	18 AAC 50.302 and 18 AAC 50.502(c)(3)	The requirements to obtain a construction permit or a minor are ongoing requirements and therefore cannot be shielded.
Stationary Source-Wide	18 AAC 50.201 - Ambient Air Quality Investigation	The requirement to perform an Ambient Air Quality Investigation is ongoing and therefore cannot be shielded. Condition 11 specifically includes a requirement to perform an Ambient Air Quality Investigation.

REV	DATE	BY	CK	APP	DESCRIPTION	REV	DATE	BY	CK	APP	DESCRIPTION

KUPARIK RIVER FIELD ROAD MAP

LOUNSBURY & ASSOCIATES, INC.
SURVEYORS ENGINEERS PLANNERS

ConocoPhillips Alaska, Inc.	MODULE: KUPARIK RIVER FIELD UNIT: ROAD MAP
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CADD FILE NO. KupRdMap1	DRAWING NO. KupRdMap	PART: 1 OF 1	REV: 1
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING PERMIT

RESPONSE TO COMMENTS

Owner Name: ConocoPhillips Alaska, Inc.

Application No.: AQ000909

Public Comment Closing Date: March 5, 2007

Permit No. AQ0909TVP01

Stationary Source: Transportable Drilling Rigs

The public comment period for ConocoPhillips Alaska Transportable Drilling Rigs operating permit closed on March 5, 2007. Comments were received from ConocoPhillips Alaska, Inc. which appear exactly as submitted by the applicant. This document provides ADEC's responses to the comments.

The following comments are submitted by ConocoPhillips Alaska, Inc. (CPAI) in response to the second public notice draft of Title V operating permit no. AQ0909TVP01 issued February 1, 2007 by the Alaska Department of Environmental Conservation (ADEC or the Department) for the Kuparuk River Unit (KRU) Transportable Drilling Rigs. Comments are provided for the Operating Permit as well as the Statement of Basis attached to the permit by the Department.

Where bolding or other means are used in these comments to highlight edits, we are not requesting changes to the format of the permit text. We are simply attempting to make it easier for ADEC to identify our comments/edits.

Section 1 – Stationary Source Information

- 1) CPAI has a new Wells Supervisor. Change the Stationary Source Wells Supervisor contact from Mike Mooney to Von Cawvey and revise the telephone number to (907) 265-6306.

Response: I agree to revise the stationary source information as requested.

Section 8 – General Recordkeeping and Reporting Requirements

- 2) Revise Condition 43 as follows:
 43. **Submittals.** Unless otherwise directed by the department or this permit, the Permittee shall send ~~two copies~~ one original and one copy of reports, compliance certifications, and other submittals required by this permit to ADEC...

Basis: We have inquired of ADEC via email communication with Cynthia Espinoza regarding the intent of this condition. She indicated that the intent is to require one original and one copy of reports submitted to ADEC. We request that the language of condition 43 be revised to clarify ADEC's intended requirement.

Response: I agree to revise the language detailing the number of report copies as requested.

Section 10 – Compliance Requirements

Condition 55, Annual Compliance Certification

3) Revise Condition 55 as follows:

57. Annual Compliance Certification. For periods after the effective date of this permit each year by March 31, the Permittee shall compile and submit to the Department one original and one copy ~~two copies~~ of an annual compliance certification report.

Basis: Since the time that we originally commented to change the text in this condition, CPAI has learned that ADEC intends to require one original and one copy of the compliance certification reports submitted to ADEC for new and renewed permits. Therefore, we request that the number of copies required by this condition be changed back to the number ADEC will require for future permits.

Response: I agree to revise the language detailing the number of report copies as requested.

Section 11 – Approved Drilling Rigs

4) Add the "Kuukpik 5" rig to the list of approved drilling rigs found in Section 11.

Basis: CPAI anticipates that the Kuukpik 5 rig will be used to drill new wells in the Kuparuk field in the future (perhaps in 2008). Presented below is a listing of the emission unit inventory for the Kuukpik 5 rig.

Equipment Type	Drill Rig		
	Kuukpik 5		
	Equipment	Rating	Units
Engines	Detroit Diesel Series 60	600	bhp
	Detroit Diesel Series 60	600	bhp
	Detroit Diesel Series 60	600	bhp

	Detroit Diesel Series DDEC IV	800	bhp
	Detroit Diesel Series DDEC IV	800	bhp
	Cummins 4BT 3.0-G2	102	bhp
	Kubota	10	kW
	Kubota D-1105	8	kW
	Kubota D-1105	8	kW
	Kubota D-1105	8	kW
	Kubota D-1105	8	kW
	Boilers and Heaters		
	Boiler	80	hp
	Boiler	80	hp
	Heater	2.0	MMBtu/hr
	Heater	1.0	MMBtu/hr
	Heater	0.65	MMBtu/hr
	Heater	0.188	MMBtu/hr
	Heater	0.188	MMBtu/hr

Response: I agree to add the Kuukpik 5 drill rig to the equipment list as requested.

- 5) Make a minor correction to the Nabors 14E engine inventory list as shown below.

Equipment Type	Drill Rig		
	Nabors 14E		
	Equipment	Rating	Units
Engines	Cat D398	600	kW
	Cat D398	600	kW
	Cat D398	600	kW
	Cat D398	600	kW
	Cat D398	600	kW
	Cat D353	300	kW
	Cat D353	300	kW
	<...>		

Response: I agree to amend the rating units for the Nabors 14E rig as requested.

Section 12 – Permit Shield

- 6) Correct the spelling of the word “provisions” in the “Reason for Non-Applicability” language for 40 CFR 63 in the permit shield, as shown in the table below.

Response: I agree to revise the spelling as requested.

- 7) Revise the entry in Table D of condition 57 that addresses the permit shield for 40 CFR 63. CPAI believes that the language highlighted below in yellow is more appropriately shown in the "Reason for Non-Applicability" column as indicated below, since the text does not cite a "Non-Applicable Requirement". Alternatively, CPAI suggests that the language highlighted in yellow be moved to a footnote to Table D or that it be included solely in the Statement of Basis.

Emissions Unit Description	Non-Applicable Requirements	Reason for Non-Applicability
Stationary Source-Wide	<p>40 CFR 63 National Emission Standards for Hazardous Air Pollutants for Emission Unit Categories.</p> <p>The HAPs shield is granted by the department under the provisions of Section 112(n)(4)(A) of 40 CFR 70 "Notwithstanding the provisions of subsection (a), emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or common control, to determine whether such units or stations are major sources, and in the case of any oil or gas exploration or production well (with its associated equipment), such emissions shall not be aggregated for any purpose under this section."</p>	<p>Emission units are exempt from the provisions<u>provisions</u> of 40 CFR 63 when the stationary source activities do not occur in a HAPs major source.</p> <p>The HAPs shield is granted by the department under the provisions of Section 112(n)(4)(A) of 40 CFR 70<u>the Clean Air Act</u> – "Notwithstanding the provisions of subsection (a), emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or common control, to determine whether such units or stations are major sources, and in the case of any oil or gas exploration or production well (with its associated equipment), such emissions shall not be aggregated for any purpose under this section."</p>

- 8) Change "40 CFR 70" to "the Clean Air Act". Section 112(n)(4)(A), cited in the paragraph shown below, is from the Clean Air Act, not 40 CFR 70.

Response: I agree to revise the regulatory citation and move the reason for non-applicability to the right hand column. The Department declines to reduce the Reason for Non-Applicability of 40 CFR 63 to a footnote or to move to the Statement of Basis since the definitive language clarifies the non-applicability rationale.

Statement of Basis

Page 4, Construction Permits

- 9) Revise the paragraph found in the "Construction Permits" section of the Statement of Basis as follows:

"No construction permits after January 18, 1997...incorporate these activities which have historically occurred in the KRU."

Basis: CPAI requests that the language used in the "Construction Permits" section be revised to match the language used in the Statement of Basis section just above the "Construction Permits" section titled "Previous Air Quality Permit to Operate", where the word "historically" is included.

Response: I agree to add "historically" in the "Construction Permits" Section as requested.

Page 13, Conditions 56 and 57, Permit Shield

- 10) Revise the "Factual Basis" paragraph for condition 57 as follows:

"Factual Basis: Table D of Operating Permit No. AQ0909TVP01 shows the permit shields that the department granted to the Permittee. The HAPS shield from 40 CFR 63 (NESHAPS) is granted by the department under the provisions of Section 112(n)(4)(A) of ~~40 CFR 70~~ the Clean Air Act. The permit..."

Basis: As indicated in our comment 8), above, Section 112(n)(4)(A) is from the Clean Air Act, not 40 CFR 70.

Response: I agree to revise the regulatory citation as requested.

